



# UNITED STATES PATENT OFFICE.

RENEER DARE, OF BRIDGETON, NEW JERSEY.

## MACHINE FOR HEADING SPIKES AND NAILS.

Specification of Letters Patent No. 584, dated January 27, 1838.

*To all whom it may concern:*

Be it known that I, RENEER DARE, of Bridgeton, in the county of Cumberland and State of New Jersey, have invented a new and Improved Method of Heading Spikes and Nails, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

10 The machine by which the spike or nail is held while receiving the head and upset is formed of a base or block R, Figures 1 and 2, upon which are raised two jaws J, J, similar to those of a blacksmith's vise, one of which J', is movable, the other J, is stationary. The movable jaw turns on a pin W, in the base R. From the upper end of the stationary jaw projects horizontally a top piece N, which embraces the two jaws. 15 In this top piece is an oblong space X, in which the upper end of the movable jaw moves, also a cam wheel, L and crank H. A horizontal axle D, turns in suitable boxes in the top piece N. On this axle is an eccentric wheel or cam for closing the movable jaw toward the stationary one. The axle with the eccentric wheel is turned by a handle K. The eccentric wheel turns against a steel plate O, fastened to the edge of the jaw. A crank H, for moving a lever E, that raises and lowers the gage and discharging rod C, extends downward from the axle D. The lever E, turns on a pin V, in the movable jaw and has an oblong mortise S, in its longest end in which the movable pin I of the crank moves backward and forward for operating the lever. The slot end of the lever works in an oblong aperture Y, in the gage and discharging rod C. The pin I, also moves in an oblong mortise Z, in the crank H. The gage rod C, moves vertically between the jaws and is retained in a vertical position by means of a guide P, which embraces the stationary jaw J. When the upper end of the gage and discharging bar is up it enters the enlarged cavities in the lower ends of the dies b, b. When it is down its lower end rests upon the top of a screw G, which passes through a projection Q from the stationary jaw and which can be raised or lowered at pleasure according to the distance it is required to move the gage bar C.

55 B, B, represents the dies placed between the jaws for holding the spike. These dies

are made larger at the upper ends for the upset.

The rod from which the spike or nail is to be formed is not to be quite as large as the shank of the spike or nail is required to be when finished. The rod is then placed in the dies with the end projecting a little above, allowing sufficient for the upset and head of the spike or nail the upset forming the taper. I place at the lower end of the spike or nail the sliding gage C, to prevent the spike from forcing down, while the upset and head are made. This gage regulates the length of the spike or nail and the size of the head when down, and when up it leaves the spike or nail entirely free in the dies. The gage takes its motion from the spindle D, and works by a handle E, the sliding gage is raised or lowered by a screw G, at the lower end as may be required to regulate the length of the spike or nail. The crank H, being in a vertical position causes the jaw J, to open and the die B', to recede from the die B, at the same time the long end of the lever E is depressed which raises the short end with the gage rod C. The piece of iron from which the spike is to be made is then put in the dies, the lower end resting on the gage rod C. The handle K is then turned to the left which causes the eccentric or cam wheel L on the spindle D to close the jaws with the dies and piece of iron from which the spike is to be made, at the same time raising the lever E, and depressing the bar C. The head and taper of the spike is formed with a hammer while the same is confined in the dies of the machine, and the point of the spike is likewise made with a hammer, either before it is put in the machine to have the head formed or after the head is formed and the nail taken out of the machine. The spike is cut from the rod the length it is wished to be made. The rod is of the same size throughout. After being cut off the proper length for the spike they are put in quantities into a coal fire. The end that is intended to form the head is heated red hot, then put into the dies and the head formed with a few strokes of a hammer. This mode of forming the head and shank is superior to the ordinary mode, as the nail in the common mode is drawn from a rod considerable longer than the nail is required to be and with double the labor and expense. The point of

the nail is more easily made while the rod is heated and immediately after the head is formed by taking the nail out of the dies and forming it with a hammer. The upset  
5 of the spike is also formed in the dies.

The whole of the machine is made of cast iron except the dies which are made of steel, and the levers which are made of wrought iron.

10 What I, the said RENEER DARE, claim as

my invention and which I desire to secure by Letters Patent is—

The above described method of holding up and discharging the spike or nail in the dies for the formation of the head and upset of 15 the same.

RENEER DARE.

Witnesses:

JOHNSON REEVES,  
ELIAS L. SEELEY.